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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,201	02/28/2002	Evert E. deBoer	13917	4918

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EXAMINER

BLOUNT, STEVEN

ART UNIT PAPER NUMBER

2668

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/084,201	Applicant(s) DEBOER ET AL.	
	Examiner Steven Blount	Art Unit 2668	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 - 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 - 16 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,093,824 to Coan et al in view of U.S. patent 5,999,286 to Venkatesan.

#### **Regarding claim 1:**

*At a first node within a mesh network, a method of combining first and second protection paths between said first node and a second node, wherein said first and second protection paths comprise first and second protection channels, respectively, said method comprising: assessing if said first and second protection paths may be combined; releasing said first protection channel, and replacing said first protection channel with said second protection channel along said first protection path if said first protection path may be combined with said second protection path.*

Coan et al teaches mesh network 10 (figure 1) wherein the said mesh network reconfigures the paths upon the determination that there is a specific failure event. See col 2, lines 30+ and col 5, lines 55+. Coan et al does not, however, teach assessing if first and second protection paths, during the rearrangement, may be combined, replacing a first protection path and replacing it with a second if the determination that the combination is permissible.

Venkatesan teaches a mesh network wherein first and second protection paths are assessed for their combinability (see col 9 lines 43+) and combining them when the said combinability is permissible. "a list of path identifiers that will be rolled to a particular alternate route."

It would have been obvious to one of ordinary skill in the art at the time of the invention to have assessed the combinability of protection paths in Coan in light of the teachings of Venkatesan in order to optimize network resources.

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**Regarding claim 2:**

*The method of claim 1, further comprising determining if a first working path protected by said first protection path and a second working path protected by said second protection path share common resources to determine if said first protection path may be combined with said second protection path.*

The determination of common resources would be obvious in view of the fact that the system in Coan is optimized for lowest cost. See col 5 lines 55+.

**Regarding claim 3:**

*The method of claim 1, further comprising determining if said second protection channel has already been shared along a defined number of other protection paths, to determine if said first protection path may be combined with said second protection path at said first node.*

It would be obvious to determine if a protection path has already been shared in view of the fact that if it has been shared, then there would not be sufficient resources to share it with other such protection paths.

**Regarding claim 4:**

*In a mesh communications network in which a protection path across said network may be allocated using protection channels between adjacent nodes on said network, a method of establishing a protection channel between a first and a second node along a second protection path, protecting a second working path, said method comprising: a. determining if a protection channel along a first protection path protecting a first working path, already exists between said first node and said second node; b. if said first working path and said second working path do not share a common points of failure, assigning said existing protection channel to said second path.*

See the rejection of claim 1 where all of the claim limitations are discussed.

**Regarding claim 5:**

*The method of claim 4, further comprising comparing resources along said first path to resources along said second path to determine if said first working path and said second working path share a common point of failure.*

This would be obvious in view of the fact that if there is a common point of failure, then both of the working paths will not carry data.

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**Regarding claim 6:**

*The method of claim 5, further comprising querying a source of said first working path, to obtain an indicator of resources for said first working path.*

See the rejection of claim 4.

**Regarding claim 7:**

*The method of claim 6, further comprising querying a source of said second working path to obtain an indicator of resources for said second working path.*

Again, see the rejection of claim 4.

**Regarding claim 8:**

*The method of claim 5, further comprising querying nodes along said first working path, to obtain an indicator of resources for said first working path.*

Querying nodes would be obvious in view of the fact that the nodes carry the data to the working paths.

**Regarding claim 9:**

*The method of claim 6, further comprising querying nodes along said second working path to obtain an indicator of resources for said second working path.*

See the rejection of claim 8.

**Regarding claim 10:**

*The method of claim 7, further comprising assessing if said first working path share one or more common points of failure with said second protection path.*

See col 9 lines 43+ of Venkatesan.

**Regarding claim 11:**

*The method of claim 4, further comprising assessing if said second working path shares a common point of failure with said first protection path.*

Again, see col 9 lines 43+ of Vankatesan.

**Regarding claim 12:**

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*The method of claim 4, further comprising determining if said existing protection channel is already shared by a defined number of protection paths.*

See the rejection of claim 3 above.

**Regarding claim 13:**

*A method of operating a node in a meshed network in which a first pair of source and destination nodes may communicate with each other by way of a first working path and a first protection path and a second pair of source and destination nodes may communicate with each by way of a second working path and a second protection path across said network, said method comprising: combining said first protection path and said second protection path between adjacent nodes on said network, if said combining does not result in communications between either of said first and second pairs of source and destination becoming susceptible to a common point of failure on said network.*

See the rejection of claim 1 above.

**Regarding claim 14:**

*Computer readable medium, storing processor executable instructions, that when loaded at a communications node within a communications network adapt said node to perform the method of claim 13.*

It would be obvious to store the method of implementing the invention in computer software in order to insure its repeatability.

**Regarding claim 15:**

*A communications node within a mesh interconnected communications network, said node comprising a processor operable to establish channels between adjacent nodes on said communications network, and operable to establish first and second protection channels between adjacent nodes, along respective first and second protection paths across said network, said first and second protection channels for carrying traffic between said first and second nodes in the event of failure of associated working paths across said network; assess if said first and second protection paths may be combined; release said first protection channel, and replace said first protection channel with said second protection channel along said first path if said first protection path may be combined with said second protection path.*

See the rejection of claim 1 above.

**Regarding claim 16:**

*The communications node of claim 15, wherein said processor is operable to establish said first and second protection channels using a multi-protocol label switched path protocol.*

While the use of MPLS is not explicitly taught in the Coan et al/Venkatesan combination, one of ordinary skill in the art would recognize that MPLS is one of several type of routing protocols which would be obvious to use in order to insure the most efficient routing of the data.

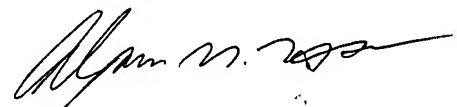
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Blount whose telephone number is 571 - 272 - 3071. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Chau Nguyen, can be reached on 571 – 272 - 3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB

  
1/17/06



ALPUS H. HSU  
PRIMARY EXAMINER